**Sleep, Drowsy Driving, and Shift Work**

**Learning Objectives for this assignment**:

1. Acquire and demonstrate knowledge beyond the textbook in an topic with recent research discoveries that significantly affects students' well-being

2. Apply scientific evidence to a controversial topic in the society involving the importance of sleep for health and performance, shift work schedules' impact on sleep, and increased risk of accidents in the workplace and highway due to sleep loss through choice or work schedules.

3. Synthesize information from a variety of sources into a coherent desciption of the state of knowledge about a topic.

4. Compare the current state knowledge with personal experience, testimonials of others, and personal opinions on the topic. Opinions on this topic often clash with the evidence.

5. Describe the relative influence of personal opinions and scientific evidence in choosing behaviors that impact sleep and risk.

Your primary response will earn up to 35 points for your submission in the Drop Box. Posting your thoughts on this topic in the Discussion Forum plus responding to at least two students will earn up to 10 points. The total week’s work is worth 45 points.

We will view videos, listen to audio, and visit web sites for information on the effects of drowsy driving and shift work on sleep and health. You will also see much information about “distracted driving” which is very relevant to our lives and the subject of many state legislatures laws, but this assignment can only focus on one of these topics, so it will be drowsy driving because it relates to sleep, the principle topic of Chapter 3. This assignment is designed to inform you of the knowledge about sleep deficit and the effects it has on our health and well-being. It's even more important objective is to introduce you the process of studying a societal issue that:

1. Is an integral part of our lives,

2. Is detrimental to the public health,

3. Is involves our chosen behaviors and preferences we do not always wish to change,

4. Compels us to consider the impact of our chosen behaviors on our personal health and well-being and on that of others,

5. Requires us to decide how we use reliable research information that tells us we and the society would be healthier and safer if we changed some current practices. Will we ignore the research findings, or try to voluntarily apply them in our lives, or compel adoption through new laws and policies that organizations and people adopt the healthier practices?

There are many resources for you to use listed below. They approach the issues from various perspectives. Your job is to become familiar enough with them to address specific issues in your written response to be submitted in this week's Drop Box. Read this entire assignment before beginning any of it so you know what information to look for to help in writing your responses to the questions at the end. Then proceed, one step at a time to explore the resources as directed, making notes about information you can use and where you obtained it. Your response must include significant elements of each of the resources below, and you must identify where each piece of information came from when you include (this means a citation).

I am not requiring APA formatted citations or references. I merely want to know where you get each piece of information so I can verify that you mastered the required components of this assignment. Remember, that while this will take you some time to complete, it stands in place of five hours of classroom time plus any assignments that might be made in class.

**First, read Chapter 3 pp. 86-108 on consciousness, sleep, and dreaming. Next, complete the questionnaire in Table 3.1 on p. 99.** How many "true's" did you check? Then read the entire assignment below before beginning to visit the resources listed which will introduce the current state of knowledge on the drowsy driving and shift work topics.

**Required Web Sites, Video & Audio clips**

You will find some information is included in more than resource. This is not mere repetitiveness; it is an important characteristic in science. We want to see multiple researchers coming to similar conclusions about an issue in order to have some confidence in the results.

1.**Student Video Tool Kit:** Sleep & Sleeplessness: the Current Scene (5 min) (required)

2. **CBS 60 Minutes** web site: March 16, 2008: two 13 minute clips on sleep and the effects of too little sleep: (required). This is the best summary of the current state of knowledge on sleep that I have seen. These two videos keep moving and are not back at the CBS 60 minutes web site:

Part 1:<http://www.cbsnews.com/video/watch/?id=4181992n>

Part 2:<http://www.cbsnews.com/video/watch/?id=4181994n&tag=mncol;lst;1>

3. **National Sleep Foundation** (NSF) web site (a highly reputable source of the current state of knowledge about sleep issues) at [http://www.sleepfoundation.org/.](http://www.sleepfoundation.org/) There are lots of interesting topics on this web site about sleep and sleep disorders in the U.S., and it is a source of the most current and reliable scientifically derived information about sleep related issues (e.g. School start times and sleep, obesity and sleep, nicotine and sleep, the Sleep in America poll, women and sleep, etc.). I encourage you to explore this very interesting and reliable "state of knowledge on sleep" resource. We will focus on information on drowsy driving and shift work found in two of the web pages.

a. Go to the "**Sleep Topics**" pull-down menu in the upper left corner. Select the "Drowsy Driving" link. Scroll down the Drowsy Driving page (reading it hopefully) and click on the link to "**DrowsyDriving.org**". On the DrowsyDriving.org web page look for **"Featured Video"** (30 seconds) which is a public service announcement designed for TV. These change frequently. The 2nd video clip (6 minutes) is in the article **The Today Show Looks at Drowsy Teen Drivers".** You find this by scrolling down the page and clicking on "Read More Posts in Drowsy Driving in the News". This video is two or three pages into the "News". Or you may try this link to go to the web page directly to view the video:<http://drowsydriving.org/2009/09/today-show-looks-at-drowsy-teen-drivers/>.

b. Next, go to the "FACTS" pull-down menu in upper left corner and read each of the several pages beginning with "Who's at risk?" followed by "Warning Signs", etc. Note that shift workers are at heightened risk for drowsy driving in addition to teenage drivers. The "Resources" pull down menu has lots of interesting information about drowsy driving, but this is not required for this assignment.

c. Next, go back to the NSF home page and the pull-down menu for Sleep Topics again. Select "Shift Work " and read the page "Shift Work and Sleep". You may see an ad for a company named "[Circadian](http://www.circadian.com/index.cfm)" that consults with employers on shift work scheduling. Go to the web site for the private company "[Circadian](http://www.circadian.com/index.cfm) : 24/7 Workforce Solutions" to see how the research on sleep and shift work is put into practice by an organizational consulting firm. As you explore this web site, consider if it seems to be promoting reliable information and practices. How do you come to your opinion about t? Describe at least two characteristics that influence your view of its reliability and include them in your response to this assignment. In case the link does not work for you, the URL is:<http://www.circadian.com/index.cfm>

4. **Canada’s Occupational Safety and Health Agency’s** (OHS) description of the impacts of shift work and ways employers can minimize it at<http://www.ccohs.ca/oshanswers/work_schedules/shiftwrk.html> . There is much more information on shift work impacts on this web site than in the American OSHA web site. The specific information for us to focus on here is about half way down the page in the section “What are some organizational approaches?” Read this carefully and compare it to your observations of employer practices. Note at the bottom of the page that this information was updated very recently, but this web site has been posting this type of information since 1998. We have known about this for a long time. Does this cause you to wonder why most employers in the U.S. are either not aware of it or do not apply it? Employer directives about harmful shift work patterns are missing from U.S. government web sites (go ahead and speculate about the reasons for that!). See what you can find on the OSHA web site about it:<http://www.osha.gov/> I find very little. There is an FAQ page of shift work.

6. The **National Highway Transportation Safety Agency's** report on Distracted and Drowsy Driving. Go to<http://www.nhtsa.gov/> . Select the “Driving Safety” tab. Select “Distracted Driving”. Explore the links in the menu across the top of the page, especially the "Stats & Facts" tab for information of interest for you to include in your response to this assignment. **Remember that sleep deprived individuals are much more easily distracted than well-rested drivers**. Recall the concept of selective attention and change blindness in the textbook chapter. Sleep deficits impair our attention ability. While this is not mentioned in these NHTSA reports, you have seen the evidence on the sleep deprived information already covered above.

7. **American Psychological Association web site:** These articles are brief and easy to read. Each corroborates research on these sleep and distraction issues.

a. *Monitor on Psychology* January 2011 article "The risks of night work: at:<http://www.apa.org/monitor/2011/01/night-work.aspx>

*b. Monitor on Psychology* February 2009 article "Dangerous distractions" at<http://www.apa.org/monitor/2009/02/>

c. Psychology topics: "Why sleep matters" at<http://www.apa.org/topics/sleep/why.aspx>#

8. Read about a study at Western Washington University and reported in the New York Times on October 22, 2009 at:

<http://well.blogs.nytimes.com/2009/10/22/what-clown-on-a-unicycle-studying-cell-phone-distraction/?emc=eta1>

If the link does not work for you, you may contact me and I will send the article to you. This article will challenge our belief that we can two things at once and be just as good at it as if we were only doing one. Multitasking is a mislabel. The human brain switches from one task to another; it does not do two things at once, jut as our textbook noted in the section on Selective Attention. Drowsy drivers multitask even more poorly than well-rested drivers, and are more easily distracted from driving while attempting to attend to a second task.

Optional: **PBS's Charlie Rose Show** (PBS version of CNN's Larry King with a more academic slant) interviewed **Dr. Charles Czseisler and Dr. Robert Basner**, both sleep researchers and physicians at Harvard Medical School on June 6, 2006. This 25 minute video is an excellent summary of knowledge about the effects of too little sleep on health and performance. Go to<http://www.charlierose.com/view/interview/374>

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**Applying this information for our assignment**

Reflect on what you have seen in the videos, heard on the audio clips, and read on these web sites and in comparison to your own life experiences and those of people you know. I am going to make a deliberately controversial argument below to stimulate your thinking about the issue, the current state of knowledge, and what we should do about it. You job will be to support it or refute it after reading the resources listed above and after considering your own views and experiences of the issues raised. You must include sufficient elements of the articles, web sites and the audio/video clips to convince me that you have read and understood the material. You do not have to agree with my controversial statement or the information in the assigned web sites, but you must be able to address the issues knowledgeably and demonstrate your knowledge of the relevant material in the web sites. A standard length is suggested for each part of your assignment. As always, more is Ok but less will likely be insufficient to cover the requirements and earn high points.

**My controversial statement**

1. Drowsy and distracted driving should be illegal, and violators ticketed just as drinking drivers are because they are threat to the public safety. People should not be allowed to drive drowsy, use cell phones while driving, eat while driving, or turn around to yell at kids in the back seat because each of these things endangers innocent people and accidents are higher. No one can two things at the same time without detracting from their ability to keep track of the road, and drowsy drivers are more distractible than rested drivers. Violators need to be removed from the public roads so innocent people are not hurt by them. Drowsy and distracted driving is a big a threat to yours and my safety as drinking and driving according to the statistics, and people should be held accountable and punished when they engage in behaviors that threaten the public health and safety. We do not allow people to drink and drive, smoke in public places, carry firearms, around town for these same reasons. We need severe penalties similar to those for drinking and driving. An individual’s right to be free ends where his/her behavior endangers others’ health and well-being. The data is clear on drowsy driving, and it is a threat to public safety. People should be held accountable to get enough sleep so that they do not endanger the public safety when they operate equipment, make decisions, and drive on the roads. Auto makers should be required to install devices that signal the driver when he/she is becoming drowsy and even disable the car if the driver does not heed the second warning. Several auto makers are working on such devices currently and the auto insurance industry is promoting it by funding research and promising lower insurance rates for such equipped cars.

2. Furthermore, employers who require employees to work frequently changing shifts mess up a workers sleep rhythms and contribute to accidents on the job, to workers' health problems, and to workers’ drowsy driving accidents. Any employer who does not follow a shift work schedule conducive to human sleep rhythms should be fined severely by OSHA (federal and state agencies that monitor work-related conditions that threaten health and safety) for endangering the public safety. Shift work does not need to conflict with sleep rhythms if the shifts are changed after 2 or 3 weeks or longer on each shift, and move forward on the clock, not backward. This does not mean we outlaw shift work or night shifts. It does mean that an employer should not be allowed to jerk a worker around from days to nights to days to nights every couple of days due to the public health dangers and personal health risks that it creates.

3. Our society must come to terms with the detrimental effect sleep deprivation is having on our health and safety, just as we have adapted to crackdowns on drinking & driving, terrorism threats, highway safety with speed limits and wearing seat belts, banning public smoking, unhealthy diets promoted by fast food chains, and numerous other examples in life. We cannot justify freedom that harms innocent others.

What do you think about this statement? How does the information in the readings apply to it?

**Your response to this assignment to be posted in the Discussion Board will include:**

(The word length listed with each segment is a guideline; more is OK, less is probably not enough to demonstrate adequate knowledge)

**1.** (3 points) Are you sleep deprived? How do you determine this? What does the information we have read here say about your sleep adequacy? (100 words)

**2.** (20 points) Summarize the current state of knowledge (as indicated by the resources listed above) of the impact of inadequate sleep on driving and the workplace, the impact of rotating shift work on worker driving, accidents, and health, and the impact of distracted and drowsy driving on highway safety before you read/viewed these resources. Include your own personal experiences, observations, and views along with the resources’ information. You must include significant elements from the resources listed above and note when you use each one (cite it).

Your personal views do not need to match that of the required resources, but you must demonstrate knowledge of the required resources to earn a high score for this assignment. I suggest highlighting concepts from the readings and audio/video clips in some way (e.g. quotes, upper case letters, etc) to catch my attention so I do not miss it an think you did not visit the assigned resources. You must include information from **at least SIX of the required articles, video and audio clips, and web sites listed, and two of them must be the Video Toolkit “Sleep and Sleeplessness” and 60 minutes videos** about sleep loss effects in #1 and #2 above. Cite each source as you incorporate information from it so that I can clearly see what you are including from the sources. Your citations need not be APA format. They do need to have enough information that I can clearly identify the source of that piece of information. These must be in-text citations, not a list of sources at the end your writing. This is the heart of your response where you must demonstrate knowledge of the assigned resources. (300-500 words, more OK)

**3.** (10 points)Respond to my controversial statement above about restricting drowsy driving and shift work by law. Speak your own mind on these issues, AND be sure to include ample elements from the video and audio clips, and web site readings to support your views whether you agree or disagree with my statement. Part of the challenge of this topic is to synthesize various resources into a coherent report of your findings. Clearly cite each source as you use it so I do not miss it. (200 words)

Do not get fixated on the difficulty of detecting sleep deprivation or drowsy driving on the highway. If we as a society decide to go after this problem, assume that we will also develop the detection technology to be at least as effective as detecting drunk driving. Think about measuring brain waves or giving a test of attention that has been standardized on alert vs. drowsy drivers. Assume that it can be developed. Focus on demonstrating your knowledge of the resources, whether we should do something about the problem, and what that should be in light my statement above.

Your personal views and the dominant public views of these sleep, work, and driving related issues may not be in agreement with the research-based information in the required sources. That will not lower your score as long as you demonstrate knowledge of the information and thought about the issues. You must decide how to address controversial issues when scientifically gathered information conflicts with yours and the public's attitudes and preferences. It is not necessary to agree with me or the readings to earn high points. My statement is designed to provoke your thinking about the issue and what we do with research information that clashes with our preferred lifestyles and freedoms, like the issues of smoking in public places or drinking and driving.. It is necessary to demonstrate your knowledge and careful thinking about the current state of knowledge and its implications for controversial social issues.

**4.** (2 points)What do think of this assignment? Does it have value for you, is the knowledge valuable for our society in general, should it be used to create laws, public policy, and work place standards? (100-200 words)

**5.** Submit your response to this research topic in the Drop Box for this week. Then post your thoughts about these issues (6 points) andreply substantively to two other students' responses (more if you like, but points earned for two only) in the Discussion Forum for this week. Merely saying that you agree or disagree is not "substantive". You must address specific aspects of the student's message and explain your views of it. (Total points for the Forum = 10)